

Advisory or Allow

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-97. (cancelled)

98. (currently amended) A computer readable memory, being a storage medium and comprising:

a computer program mechanism including embedded therein instructions executable by a processor, wherein the processor when executing the instructions performs a plurality of steps, including

generating a baseline from lateral flow assay data produced by testing for the presence of an analyte on a lateral flow test strip;

quantifying measurement zones, included within detection zones, with respect to the baseline; and

determining the presence of analyte from the measurement zones.

99. (currently amended) The memory of claim 98, wherein [[the]] quantifying the measurement zones includes distinguishing between measurement zones, which include an analyte measurement zone and a control measurement zone.

100. (previously presented) The memory of claim 98, wherein the baseline approximates a signal of the test strip if the measurement zones were not present.

101. (previously presented) The memory of claim 98, wherein the baseline approximates reflectance of the test strip after the assay has been performed.

102. (previously presented) The memory of claim 98, wherein the generating baseline includes approximating a relatively flat baseline in detection zones where intensity of reflectance of the strip is variable with respect to background of the strip.

103. (previously presented) The memory of claim 102, wherein the detection zones comprise measurement zones corresponding to a control binding zone and/or an analyte binding zone.

104. (previously presented) The memory of claim 103, wherein the step of quantifying measurement zones with respect to the baseline produces a first value corresponding to the control measurement zone and a second value corresponding to the analyte measurement zone.

105. (cancelled)

106. (previously presented) The memory of claim 98, wherein quantifying the measurement zones includes using the baseline to determine Density of Reflectance (DR) of the measurement zones.

107. (previously presented) The memory of claim 98, wherein quantifying the measurement zones includes using equations or functions that compare a detection signal arising from a measurement zone with respect to a detection signal arising from remainder of the test strip.

108. (previously presented) The memory of claim 98, wherein the steps further include processing raw data from an optical sensor that views the test strip.

109. (previously presented) The memory of claim 108, wherein the steps further include compiling an array of raw data, comprising reflectance intensity of the test strip.

110. (previously presented) The memory of claim 109, wherein reflectance intensity of the strip comprises reflectance of the measurement zones.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-97. (canceled)

98. (currently amended) An apparatus useful for detecting the addition of a sample to a test strip in a lateral flow assay comprising:

a housing having a receptacle for retaining a test strip for a lateral flow assay; and

an autostart means;

wherein the autostart means comprises a capacitance sensor that senses a change in capacitance when a sample or buffer is applied to the test strip placed in the receptacle, and initiates timing of the assay, and a means for regulating voltage across the capacitance sensor.

99. (previously presented) The apparatus of claim 98, further comprising a heating element positioned to lie under and contact the test strip when the test strip is in place.

100. (canceled)

101. (previously presented) The apparatus of claim 98, further comprising a test strip.

102. (previously presented) The apparatus of claim 101, wherein the test strip contains a biological sample.

103. (previously presented) The apparatus of claim 102, wherein the biological sample is selected from the group consisting of whole blood, serum, plasma, and urine.

104. (previously presented) The apparatus of claim 102, wherein the biological sample is a human biological sample.

105. (previously presented) The apparatus of claim 102, wherein the biological sample is a non-human biological sample.

106. (previously presented) The apparatus of claim 105, wherein the non-human biological sample is a sample consisting of a livestock and a food product.

107. (withdrawn) An apparatus for conducting lateral flow assay on a test strip for detection of an analyte in a sample comprising:

a housing having a receptacle for retaining a test strip for a lateral flow assay;

an autostart means;

a test strip comprising an internal quality control means; wherein the autostart means senses application of sample or buffer to the test strip when the test strip is placed in the receptacle, and initiates timing of the assay.

108. (withdrawn) The apparatus of claim 107, wherein the internal quality control means of the test strip comprises a first control measurement zone including a first control agent immobilized therein which is capable of binding the control agent; the first control agent being in mathematical relationship with the second control agent.

109. (withdrawn) The apparatus of claim 107, further comprising a detection means for detecting reflectance of the test strip.

110. (withdrawn) The apparatus of claim 107, further comprising a heating element positioned to lie under and contacts the test strip.

111. (withdrawn) The apparatus of claim 107, wherein the detection of the analyte includes quantitation of the analyte.

112. (withdrawn) A method of detecting an analyte in a sample by use of a lateral flow assay on a test strip comprising the steps of:

- (a) providing a sample on a test strip;
- (b) allowing an analyte in the sample, if present, to react with an analyte binding agent on the test strip to form a complex;
- (c) measuring reflectance of the test strip after formation of the complex;
- (d) detecting background reflectance; and
- (e) determining amount of analyte present.

113. (withdrawn) The method of claim 112, wherein the method comprises use of a software program to effect one or more of the steps.

114. (withdrawn) A method of analyzing results of a lateral flow assay on a test strip for detection of an analyte, wherein the test strip comprises a first control measurement zone a second control measurement zone, and an analyte binding zone, comprising the steps of:

- (a) determining reflectance of the test strip;
- (b) generating a baseline reflectance;
- (c) quantifying measurement zones with respect to the baseline; and
- (d) comparing measurement zones corresponding to the control binding zones and analyte binding zone.

115. (withdrawn) The method of claim 114, wherein the baseline is generated after the analyte, if present, has been allowed to react with an analyte bind agent in the analyte binding zone.

116. (withdrawn) A method of conducting quality control on a test strip for a lateral flow assay comprising the steps of:

- (a) detecting a first reflectance of a first control zone containing a first control binding agent bound to a control agent;
- (b) detecting a second reflectance of a second control zone containing a second control binding agent bound to the control agent; and

(c) determining a mathematical relationship between the first reflectance and the second reflectance to determine if the mathematical relationship is within a specified range.

117. (currently amended) The apparatus of claim 98, further comprising an optical sensor aligned with the test strip ~~when the test strip is in place in the receptacle.~~

118. (previously presented) The apparatus of claim 117 further comprising a moving mechanism attached to the optical sensor that moves the optical sensor with respect to the test strip.

119. (currently amended) The apparatus of claim 117 further comprising a moving mechanism attached to the ~~test-strip~~ housing that moves the test strip with respect to the optical sensor, wherein the housing is a cartridge.

120. (currently amended) The apparatus of claim 98, further comprising an ~~infrared~~ a sensor that detects the insertion of the ~~test-strip~~ housing, wherein the housing is a cartridge into the receptacle.

121. (new) The apparatus of claim 120, wherein the sensor is an infrared sensor.